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1. A method for modulating a disease or condition associated with phospholipase D (PLD) initiated polymorphoneutrophil (PMN) inflammation in a subject, comprising

administering to the subject an effective anti-inflammatory amount of a lipoxin analog having the formula

$$Q_4H$$
 Q_3H
 Q_3H
 Q_1
 Q_1
 Q_2
 Q_3
 Q_4
 Q

wherein X is R_1 , OR_1 , or SR_1 ; wherein R_1 is

(i) a hydrogen atom;

(ii) an alkyl of 1 to 8 carbons atoms, inclusive, which may be straight chain or branched;

(iii) a cycloalkyl of 3 to 10 carbon atoms;

(iv) an aralkyl of 7 to 12 carbon atoms;

(v) phenyl;

(vi) substituted phenyl

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 $-C(=O)-R_1$, $-SO_3H$, a hydrogen atom, halogen, methyl, $-OR_x$, wherein R_x is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl;

- (vii) a detectable label molecule; or
- (viii) a straight or branched chain alkenyl of 2 to 8 carbon atoms, inclusive;

wherein Q_1 is (C=O), SO_2 or (CN), provided when Q_1 is CN, then X is absent; wherein Q_3 and Q_4 are each independently O, S or NH; wherein one of R_2 and R_3 is a hydrogen atom and the other is

- (a) H;
- (b) an alkyl of 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched;
- (c) a cycloalkyl of 3 to 6 carbon atoms, inclusive;
- (d) an alkenyl of 2 to 8 carbon atoms, inclusive, which may be straight chain or branched; or
- (e) $R_aQ_2R_b$ wherein Q_2 is -O- or -S-; wherein R_a is alkylene of 0 to 6 carbons atoms, inclusive, which may be straight chain or branched and wherein R_b is alkyl of 0 to 8 carbon atoms, inclusive, which may be straight chain or branched, provided when R_b is 0, then R_b is a hydrogen atom;

wherein R₄ is

- (a) H;
- (b) an alkyl of 1 to 6 carbon atoms, inclusive, which may be a straight chain or branched;

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wherein R₅ is

$$Z_{ij}$$
 Z_{ij}
 Z_{ij}

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wherein Z_1 , Z_1 , Z_2 , and Z_3 are each independently selected from $-NO_2$, -CN, $-C(=O)-R_1$, $-SO_3H$, a hydrogen atom, halogen, methyl, $-OR_3$, wherein R_3 is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl or a substituted or unsubstituted, branched or unbranched alkyl group;

wherein Y_1 is -OH, methyl, -SH, an alkyl of 2 to 4 carbon atoms, inclusive, straight chain or branched, an alkoxy of 1 to 4 carbon atoms, inclusive, or CH_aZ_b where a+b=3, a=0 to 3, b=0 to 3 and Z is cyano, nitro or a halogen;

wherein R₆ is

- (a) H;
- (b) an alkyl from 1 to 4 carbon atoms, inclusive, straight chain or branched;

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wherein T is O or S, and pharmaceutically acceptable salts thereof, such that a disease or condition associated with PLD initiated polymorphoneutrophil (PMN) inflammation in a subject is modulated.

- 2. The method of claim 1, wherein said method is performed in vitro.
- 3. The method of claim 1, wherein said method is performed in vivo.

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4. A method for treating phospholipase D (PLD) initiated polymorphoneutrophil (PMN) inflammation in a subject, comprising

administering to the subject an effective anti-inflammatory amount of a lipoxin analog having the formula

$$Q_4H$$
 Q_3H
 R_2
 Q_1
 R_4
 R_5
 R_3
 R_6
 Y_1

wherein X is R_1 , OR_1 , or SR_1 ; wherein R_1 is

(i) a hydrogen atom;

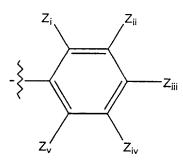
(ii) an alkyl of 1 to 8 carbons atoms, inclusive, which may be straight chain or branched;

(iii) a cycloalkyl of 3 to 10 carbon atoms;

(iv) an aralkyl of 7 to 12 carbon atoms;

(v) phenyl;

(vi) substituted phenyl



wherein Z_i , Z_{ii} , Z_{iii} , Z_{iv} and Z_v are each independently selected from -NO₂, -CN, -C(=0)-R₁, -SO₃H, a hydrogen atom, halogen, methyl, -OR_x, wherein R_x is 1 to

8 carbon atoms, inclusive, which may be a straight chain or branched, and

hydroxyl;

- (vii) a detectable label molecule; or
- (viii) a straight or branched chain alkenyl of 2 to 8 carbon atoms, inclusive;

wherein Q_1 is (C=0), SO_2 or (CN), provided when Q_1 is CN, then X is absent; wherein Q_3 and Q_4 are each independently O, S or NH; wherein one of R_2 and R_3 is a hydrogen atom and the other is

- (a) H;
- (b) an alkyl of 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched;
- (c) a cycloalkyl of 3 to 6 carbon atoms, inclusive;
- (d) an alkenyl of 2 to 8 carbon atoms, inclusive, which may be straight chain or branched; or
- (e) R_aQ₂R_b wherein Q₂ is -O- or -S-; wherein R_a is alkylene of 0 to 6 carbons atoms, inclusive, which may be straight chain or branched and wherein R_b is alkyl of 0 to 8 carbon atoms, inclusive, which may be straight chain or branched, provided when R_b is 0, then R_b is a hydrogen atom;

wherein R4 is

- (a) H;
- (b) an alkyl of 1 to 6 carbon atoms, inclusive, which may be a straight chain or branched;

wherein R₅ is

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$$Z_{i}$$
 Z_{ii}
 Z_{iii}

wherein $Z_{_{I}}$, $Z_{_{Ii}}$, $Z_{_{iv}}$ and $Z_{_{v}}$ are each independently selected from -NO₂, -CN, -C(=O)- R_1 , -SO₃H, a hydrogen atom, halogen, methyl, -O R_x , wherein R_x is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl or a substituted or unsubstituted, branched or unbranched alkyl group;

wherein Y_1 is -OH, methyl, -SH, an alkyl of 2 to 4 carbon atoms, inclusive, straight chain or branched, an alkoxy of 1 to 4 carbon atoms, inclusive, or CH_aZ_b where a+b=3, a=0 to 3, b=0 to 3 and Z is cyano, nitro or a halogen;

wherein R₆ is

(a) H;

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(b) an alkyl from 1 to 4 carbon atoms, inclusive, straight chain or branched;

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wherein T is O or S, and pharmaceutically acceptable salts thereof, such that PLD initiated polymorphoneutrophil (PMN) inflammation is treated in a subject.

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The method of claim 1, wherein said method is performed in vitro.

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The method of claim 1, wherein said method is performed in vivo.

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7. A method for modulating a disease or condition associated with phosphlipase D (PLD) initiated superoxide generation or degranulation activity in a subject, comprising

administering to the subject an effective anti-PLD amount of a lipoxin analog having the formula

$$Q_4H$$

$$Q_3H$$

$$R_4$$

$$R_5$$

$$R_3$$

$$R_6$$

$$Y_1$$

wherein X is R_1 , OR_1 , or SR_1 ; wherein R_1 is

(i) a hydrogen atom;

(ii) an alkyl of 1 to 8 carbons atoms, inclusive, which may be straight chain or branched;

(iii) a cycloalkyl of 3 to 10 carbon atoms;

(iv) an aralkyl of 7 to 12 carbon atoms;

(v) phenyl;

(vi) substituted phenyl

 Z_{ij} Z_{iji} Z_{iji}

 $-C(=O)-R_1$, $-SO_3H$, a hydrogen atom, halogen, methyl, $-OR_x$, wherein R_x is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl;

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- (vii) a detectable label molecule; or
- (viii) a straight or branched chain alkenyl of 2 to 8 carbon atoms, inclusive;

wherein Q_1 is (C=0), SO_2 or (CN), provided when Q_1 is CN, then X is absent; wherein Q_3 and Q_4 are each independently O, S or NH; wherein one of R_2 and R_3 is a hydrogen atom and the other is

- (a) H;
- (b) an alkyl of 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched;
- (c) a cycloalkyl of 3 to 6 carbon atoms, inclusive;
- (d) an alkenyl of 2 to 8 carbon atoms, inclusive, which may be straight chain or branched; or
- (e) $R_aQ_2R_b$ wherein Q_2 is -O- or -S-; wherein R_a is alkylene of 0 to 6 carbons atoms, inclusive, which may be straight chain or branched and wherein R_b is alkyl of 0 to 8 carbon atoms, inclusive, which may be straight chain or branched, provided when R_b is 0, then R_b is a hydrogen atom;

wherein R₄ is

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- (a) H;
- (b) an alkyl of 1 to 6 carbon atoms, inclusive, which may be a straight chain or branched;

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wherein R₅ is

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wherein Z_1 , Z_{11} , Z_{12} , and Z_{v} are each independently selected from $-NO_2$, -CN, $-C(=O)-R_1$, $-SO_3H$, a hydrogen atom, halogen, methyl, $-OR_x$, wherein R_x is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl or a substituted or unsubstituted, branched or unbranched alkyl group;

wherein Y_1 is -OH, methyl, -SH, an alkyl of 2 to 4 carbon atoms, inclusive, straight chain or branched, an alkoxy of 1 to 4 carbon atoms, inclusive, or CH_aZ_b where a+b=3, a=0 to 3, b=0 to 3 and Z is cyano, nitro or a halogen;

wherein R₆ is

- (a) H;
- (b) an alkyl from 1 to 4 carbon atoms, inclusive, straight chain or branched;

wherein T is O or S, and pharmaceutically acceptable salts thereof, such that a disease or condition associated with PLD initiated superoxide generation or degranulation activity in a subject is modulated.

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- 8. The method of claim 7, wherein said method is performed in vitro.
- 9. The method of claim 7, wherein said method is performed in vivo.

10. A method for treating phospholipase D (PLD) initiated superoxide generation or degranulation in a subject, comprising

administering to the subject an effective anti-PLD amount of a lipoxin analog having the formula

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$$\begin{array}{c|c} Q_4H & Q_3H & R_2 \\ \hline \\ R_4 & R_5 & R_3 \\ \hline \\ R_6 & Y_1 & \end{array}$$

wherein X is R_1 , OR_1 , or SR_1 ; wherein R_1 is

(i) a hydrogen atom;

(ii) an alkyl of 1 to 8 carbons atoms, inclusive, which may be straight chain or branched;

(iii) a cycloalkyl of 3 to 10 carbon atoms;

(iv) an aralkyl of 7 to 12 carbon atoms;

(v) phenyl;

(vi) substituted phenyl

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$$Z_{i}$$
 Z_{ii}
 Z_{ii}
 Z_{ii}

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wherein Z_i , Z_{ii} , Z_{iv} and Z_v are each independently selected from $-NO_2$, -CN, $-C(=O)-R_1$, $-SO_3H$, a hydrogen atom, halogen, methyl, $-OR_x$, wherein R_x is 1 to

8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl;

- (vii) a detectable label molecule; or
- (viii) a straight or branched chain alkenyl of 2 to 8 carbon atoms, inclusive;

wherein Q_1 is (C=O), SO_2 or (CN), provided when Q_1 is CN, then X is absent; wherein Q_3 and Q_4 are each independently O, S or NH; wherein one of R_2 and R_3 is a hydrogen atom and the other is

- (a) H;
- (b) an alkyl of 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched;
- (c) a cycloalkyl of 3 to 6 carbon atoms, inclusive;
- (d) an alkenyl of 2 to 8 carbon atoms, inclusive, which may be straight chain or branched; or
- (e) $R_aQ_2R_b$ wherein Q_2 is -O- or -S-; wherein R_a is alkylene of 0 to 6 carbons atoms, inclusive, which may be straight chain or branched and wherein R_b is alkyl of 0 to 8 carbon atoms, inclusive, which may be straight chain or branched, provided when R_b is 0, then R_b is a hydrogen atom;

wherein R₄ is

- (a) H;
- (b) an alkyl of 1 to 6 carbon atoms, inclusive, which may be a straight chain or branched:

wherein R₅ is

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wherein Z_1 , Z_1 , Z_2 , and Z_3 are each independently selected from $-NO_2$, -CN, $-C(=O)-R_1$, $-SO_3H$, a hydrogen atom, halogen, methyl, $-OR_3$, wherein R_3 is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl or a substituted or unsubstituted, branched or unbranched alkyl group;

wherein Y_1 is -OH, methyl, -SH, an alkyl of 2 to 4 carbon atoms, inclusive, straight chain or branched, an alkoxy of 1 to 4 carbon atoms, inclusive, or CH_aZ_b where a+b=3, a=0 to 3, b=0 to 3 and Z is cyano, nitro or a halogen;

wherein R₆ is

- (a) H;
- (b) an alkyl from 1 to 4 carbon atoms, inclusive, straight chain or branched;

wherein T is O or S, and pharmaceutically acceptable salts thereof, such that PLD initiated superoxide generation or granulation is treated in a subject.

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- 11. The method of claim 10, wherein said method is performed in vitro.
- 12. The method of claim 10, wherein said method is performed in vivo.

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13. A packaged pharmaceutical composition for treating a disease or condition associated with phospholipase D (PLD) initiated activity in a subject, comprising:

a container holding a therapeutically effective amount of at least one lipoxin compound having the formula

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wherein X is R_1 , OR_1 , or SR_1 ; wherein R_1 is

> (i) a hydrogen atom;

an alkyl of 1 to 8 carbons atoms, inclusive, which may (ii) be straight chain or branched;

(iii) a cycloalkyl of 3 to 10 carbon atoms;

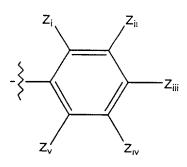
(iv) an aralkyl of 7 to 12 carbon atoms;

(v) phenyl;

(vi) substituted phenyl

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wherein Z_{ii} , Z_{iii} , Z_{iv} and Z_{v} are each independently selected from -NO₂, -CN, -C(=O)- R_1 , -SO₃H, a hydrogen atom, halogen, methyl, -O R_x , wherein R_x is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and

hydroxyl;

- (vii) a detectable label molecule; or
- (viii) a straight or branched chain alkenyl of 2 to 8 carbon atoms, inclusive;

wherein Q_1 is (C=O), SO_2 or (CN), provided when Q_1 is CN, then X is absent; wherein Q_3 and Q_4 are each independently O, S or NH; wherein one of R_2 and R_3 is a hydrogen atom and the other is

- (a) H;
- (b) an alkyl of 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched;
- (c) a cycloalkyl of 3 to 6 carbon atoms, inclusive;
- (d) an alkenyl of 2 to 8 carbon atoms, inclusive, which may be straight chain or branched; or
- (e) $R_aQ_2R_b$ wherein Q_2 is -O- or -S-; wherein R_a is alkylene of 0 to 6 carbons atoms, inclusive, which may be straight chain or branched and wherein R_b is alkyl of 0 to 8 carbon atoms, inclusive, which may be straight chain or branched, provided when R_b is 0, then R_b is a hydrogen atom;

wherein R₄ is

- (a) H;
- (b) an alkyl of 1 to 6 carbon atoms, inclusive, which may be a straight chain or branched;

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wherein R₅ is

$$Z_{i}$$
 Z_{ii}
 Z_{ii}
 Z_{ii}

wherein Z_1 , Z_{11} , Z_{11} , Z_{11} , and Z_{11} are each independently selected from $-NO_2$, -CN, $-C(=O)-R_1$, $-SO_3H$, a hydrogen atom, halogen, methyl, $-OR_x$, wherein R_x is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl or a substituted or unsubstituted, branched or unbranched alkyl group;

wherein Y_1 is -OH, methyl, -SH, an alkyl of 2 to 4 carbon atoms, inclusive, straight chain or branched, an alkoxy of 1 to 4 carbon atoms, inclusive, or CH_aZ_b where a+b=3, a=0 to 3, b=0 to 3 and Z is cyano, nitro or a halogen;

wherein R₆ is

- (a) H;
- (b) an alkyl from 1 to 4 carbon atoms, inclusive, straight chain or branched;

wherein T is O or S, and pharmaceutically acceptable salts thereof; and instructions for using said lipoxin compound for treating a disease or condition associated with PLD initiated activity in the subject.

14. A packaged pharmaceutical composition for treating phospholipase D initiated activity in a subject, comprising:

a container holding a therapeutically effective amount of at least one lipoxin compound having the formula

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$$Q_4H$$
 Q_3H
 R_2
 Q_1
 R_4
 R_5
 R_3
 R_6
 Y_1

wherein X is R_1 , OR_1 , or SR_1 ; wherein R_1 is

(i) a hydrogen atom;

(ii) an alkyl of 1 to 8 carbons atoms, inclusive, which may be straight chain or branched;

(iii) a cycloalkyl of 3 to 10 carbon atoms;

(iv) an aralkyl of 7 to 12 carbon atoms;

(v) phenyl;

(vi) substituted phenyl

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$$Z_{i}$$
 Z_{ii}
 Z_{ii}
 Z_{ii}

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wherein Z_i , Z_{ii} , Z_{iv} and Z_v are each independently selected from $-NO_2$, -CN, $-C(=O)-R_1$, $-SO_3H$, a hydrogen atom, halogen, methyl, $-OR_x$, wherein R_x is 1 to

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8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl;

- (vii) a detectable label molecule; or
- (viii) a straight or branched chain alkenyl of 2 to 8 carbon atoms, inclusive;

wherein Q_1 is (C=O), SO_2 or (CN), provided when Q_1 is CN, then X is absent; wherein Q_3 and Q_4 are each independently O, S or NH; wherein one of R_2 and R_3 is a hydrogen atom and the other is

- (a) H;
- (b) an alkyl of 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched;
- (c) a cycloalkyl of 3 to 6 carbon atoms, inclusive;
- (d) an alkenyl of 2 to 8 carbon atoms, inclusive, which may be straight chain or branched; or
- (e) R_aQ₂R_b wherein Q₂ is -O- or -S-; wherein R_a is alkylene of 0 to 6 carbons atoms, inclusive, which may be straight chain or branched and wherein R_b is alkyl of 0 to 8 carbon atoms, inclusive, which may be straight chain or branched, provided when R_b is 0, then R_b is a hydrogen atom;

wherein R₄ is

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- (a) H;
- (b) an alkyl of 1 to 6 carbon atoms, inclusive, which may be a straight chain or branched;

wherein R₅ is

$$Z_{i}$$
 Z_{ii}
 Z_{ii}
 Z_{ii}

wherein Z_1 , Z_{11} , Z_{12} , and Z_{13} are each independently selected from $-NO_2$, -CN, $-C(=O)-R_1$, $-SO_3H$, a hydrogen atom, halogen, methyl, $-OR_x$, wherein R_x is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl or a substituted or unsubstituted, branched or unbranched alkyl group;

wherein Y_1 is -OH, methyl, -SH, an alkyl of 2 to 4 carbon atoms, inclusive, straight chain or branched, an alkoxy of 1 to 4 carbon atoms, inclusive, or CH_aZ_b where a+b=3, a=0 to 3, b=0 to 3 and Z is cyano, nitro or a halogen;

wherein R_6 is

(a) H;

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(b) an alkyl from 1 to 4 carbon atoms, inclusive, straight chain or branched;

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wherein T is O or S, and pharmaceutically acceptable salts thereof; and instructions for using said lipoxin compound for treating PLD initiated activity in the subject.

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15. A packaged pharmaceutical composition for treating a disease or condition associated with phospholipase D (PLD) initiated superoxide generation or degranulation activity in a subject, comprising:

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a container holding a therapeutically effective amount of at least one lipoxin compound having the formula

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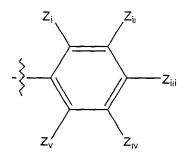
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 Q_4H Q_3H Q_3H Q_1 Q_1 Q_1 Q_2 Q_3 Q_4 Q_4 Q

wherein X is R_1 , OR_1 , or SR_1 ; wherein R_1 is

- (i) a hydrogen atom;
- (ii) an alkyl of 1 to 8 carbons atoms, inclusive, which may be straight chain or branched;
- (iii) a cycloalkyl of 3 to 10 carbon atoms;
- (iv) an aralkyl of 7 to 12 carbon atoms;
- (v) phenyl;
- (vi) substituted phenyl



wherein Z_1 , Z_{ii} , Z_{ii} , Z_{iv} and Z_v are each independently selected from $-NO_2$, -CN, $-C(=O)-R_1$, $-SO_3H$, a hydrogen atom, halogen, methyl, $-OR_x$, wherein R_x is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl;

- (vii) a detectable label molecule; or
- (viii) a straight or branched chain alkenyl of 2 to 8 carbon atoms, inclusive;

wherein Q_1 is (C=O), SO_2 or (CN), provided when Q_1 is CN, then X is absent; wherein Q_3 and Q_4 are each independently O, S or NH; wherein one of R_2 and R_3 is a hydrogen atom and the other is

- (a) H;
- (b) an alkyl of 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched;
- (c) a cycloalkyl of 3 to 6 carbon atoms, inclusive;
- (d) an alkenyl of 2 to 8 carbon atoms, inclusive, which may be straight chain or branched; or
- (e) $R_aQ_2R_b$ wherein Q_2 is -O- or -S-; wherein R_a is alkylene of 0 to 6 carbons atoms, inclusive, which may be straight chain or branched and wherein R_b is alkyl of 0 to 8 carbon atoms, inclusive, which may be straight chain or branched, provided when R_b is 0, then R_b is a hydrogen atom;

wherein R₄ is

- (a) H;
- (b) an alkyl of 1 to 6 carbon atoms, inclusive, which may be a straight chain or branched;

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wherein R₅ is

 Z_{i} Z_{ii} Z_{iii} Z_{iii}

wherein Z_i , Z_{ii} , Z_{ii} , Z_{iv} and Z_v are each independently selected from $-NO_2$, -CN, $-C(=O)-R_1$, $-SO_3H$, a hydrogen atom, halogen, methyl, $-OR_x$, wherein R_x is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl or a substituted or unsubstituted, branched or unbranched alkyl group;

wherein Y_1 is -OH, methyl, -SH, an alkyl of 2 to 4 carbon atoms, inclusive, straight chain or branched, an alkoxy of 1 to 4 carbon atoms, inclusive, or CH_aZ_b where a+b=3, a=0 to 3, b=0 to 3 and Z is cyano, nitro or a halogen;

wherein R₆ is

- (a) H;
- (b) an alkyl from 1 to 4 carbon atoms, inclusive, straight chain or branched;

wherein T is O or S, and pharmaceutically acceptable salts thereof; and instructions for using said lipoxin compound for treating a disease or condition associated with PLD initiated superoxide generation or degranulation activity in the subject.

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16. A packaged pharmaceutical composition for treating phospholipase D

(PLD) initiated superoxide generation or degranulation activity in a subject, comprising:
a container holding a therapeutically effective amount of at least one lipoxin
compound having the formula

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$$Q_4H$$
 Q_3H
 R_2
 Q_1
 Q_1
 Q_2
 Q_3
 Q_4
 Q_4
 Q_4
 Q_5
 Q_4
 Q_5
 $Q_$

wherein X is R_1 , OR_1 , or SR_1 ; wherein R_1 is

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(i) a hydrogen atom;

(ii) an alkyl of 1 to 8 carbons atoms, inclusive, which may be straight chain or branched;

(iii) a cycloalkyl of 3 to 10 carbon atoms;

(iv) an aralkyl of 7 to 12 carbon atoms;

(v) phenyl;

(vi) substituted phenyl

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$$Z_{i}$$
 Z_{ii}
 Z_{iii}

 $-C(=O)-R_1$, $-SO_3H$, a hydrogen atom, halogen, methyl, $-OR_x$, wherein R_x is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl;

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- (vii) a detectable label molecule; or
- (viii) a straight or branched chain alkenyl of 2 to 8 carbon atoms, inclusive;

wherein Q_1 is (C=O), SO_2 or (CN), provided when Q_1 is CN, then X is absent; wherein Q_3 and Q_4 are each independently O, S or NH; wherein one of R_2 and R_3 is a hydrogen atom and the other is

- (a) H;
- (b) an alkyl of 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched;
- (c) a cycloalkyl of 3 to 6 carbon atoms, inclusive;
- (d) an alkenyl of 2 to 8 carbon atoms, inclusive, which may be straight chain or branched; or
- (e) $R_aQ_2R_b$ wherein Q_2 is -O- or -S-; wherein R_a is alkylene of 0 to 6 carbons atoms, inclusive, which may be straight chain or branched and wherein R_b is alkyl of 0 to 8 carbon atoms, inclusive, which may be straight chain or branched, provided when R_b is 0, then R_b is a hydrogen atom;

wherein R₄ is

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- (a) H;
- (b) an alkyl of 1 to 6 carbon atoms, inclusive, which may be a straight chain or branched;

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wherein R₅ is

$$Z_{ij}$$
 Z_{ij}
 Z_{ij}

wherein Z_1 , Z_{11} , Z_{11} , Z_{11} , and Z_{11} are each independently selected from $-NO_2$, -CN, $-C(=O)-R_1$, $-SO_3H$, a hydrogen atom, halogen, methyl, $-OR_x$, wherein R_x is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl or a substituted or unsubstituted, branched or unbranched alkyl group;

wherein Y_1 is -OH, methyl, -SH, an alkyl of 2 to 4 carbon atoms, inclusive, straight chain or branched, an alkoxy of 1 to 4 carbon atoms, inclusive, or CH_aZ_b where a+b=3, a=0 to 3, b=0 to 3 and Z is cyano, nitro or a halogen;

wherein R_6 is

(a) H;

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(b) an alkyl from 1 to 4 carbon atoms, inclusive, straight chain or branched;

wherein T is O or S, and pharmaceutically acceptable salts thereof; and instructions for using said lipoxin compound for treating PLD initiated superoxide generation or degranulation activity in the subject.